

Notice of Allowability	Application No.	Applicant(s)	
	10/631,932	KAMIKAWA ET AL.	
	Examiner	Art Unit	
	Tom V. Sheng	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 8/2/2006.
2. ☒ The allowed claim(s) is/are 1-5, 7-13 and 15-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/711,353.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Mark E. Schmidt on 9/5/06.

In the claims:

Claim 12, line 7, after "supplying a pulse current", insert " as the driving current".

2. Claims 1-5, 7-13 and 15-20 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The invention is directed to a light-emitting display comprising LED devices each includes an InGaN quantum well layer as an active layer, a color of the light of the LED device being blue shifted with a change in value of a driving current. The driving current has a peak value and a duty ratio for controlling the color and the intensity of light respectively. Specifically, the driving current is driven as a pulse current with a period equal to or less than 30 ms and a pulse width equal to or larger than 0.2 ns.

Independent claims 1, 7 identify, inter alia, the uniquely distinct features, "supplying a pulse current to the light emitting apparatus to drive the light emitting apparatus, and controlling separately the peak value and the duty ratio of the pulse

current; wherein the pulse current has a period equal to or less than 30 ms and a pulse width equal to or larger than 0.2 ns.”

Independent claim 12 identifies, inter alia, the uniquely distinct features, “supplying a pulse current as the driving current to the light emitting apparatus to drive the light emitting apparatus, and controlling separately the peak value and the duty ratio of the pulse current; wherein if a value of the driving current is changed, the variation of a color of light emitting from the light emitting section is larger than that of a color of light emitting from the LED device.”

Independent claims 15 and 18 identify, inter alia, the uniquely distinct features, “means for supplying a pulse current to the light emitting apparatus to drive the light emitting apparatus, and means for controlling separately the peak value and the duty ratio of the pulse current; whereby the light emitting apparatus emits light having a desired color by changing the peak value of the pulse current, even if the driving current is changed; wherein the pulse current has a period equal to or less than 30 ms and a pulse width equal to or larger than 0.2 ns.”

Lebens et al. (US 6,095,661), hereinafter Lebens, teaches a flashlight capable of emitting light between 440 nm blue to 380 nm ultraviolet. Specifically, the light is emitted by a combination of a LEDs and a YAG phosphor, which converts a portion of the blue light to yellow, yielding a white-appearing final light output. Moreover, the LEDs could be a blue-shifting type made from GaN or InGaN by pulses of sufficiently high current. On the other hand, Lebens does not teach that the pulse current has a period equal to or less than 30 ms and a pulse width equal to or larger than 0.2 ns in the

control of color and intensity. Moreover, Lebens also does not teach that the variation of a color of light emitting from the light emitting section (LED with a blue-shifting fluorescent) is larger than that of a color of light emitting from the LED device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/631,932
Art Unit: 2629

Page 5

Tom Sheng
September 5, 2006

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
